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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/582,809 06/30/00 SEIDEL

G XY-LODO-USNP

EXAMINER

QM32/0917

SANTANGELO LAW OFFICES  
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THIRD FLOOR  
FORT COLLINS CO 80521

SZMAL, R

ART UNIT

PAPER NUMBER

3736

DATE MAILED:

09/17/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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**Office Action Summary**

Application No.

09/582,809

Applicant(s)

SEIDEL ET AL.

Examiner

Brian Szmaj

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 and 165-173 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-25, 169 and 171-173 is/are rejected.
- 7) ☒ Claim(s) 4, 26-29, 165-168 and 170 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 6. 6) ☐ Other:

***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 183-191 been renumbered 165-173.

2. Claims 1, 15, 16 and 23 are objected to because of the following informalities: In Claim 1, steps "d-g" should be "b-e" due to the cancellation of the original steps b and c in the amendment. In Claim 15, steps "c-e" should be steps "b-d" due to the cancellation of the original step b. In claim 16, step "e" should be step "c" due to the cancellation of original steps c and d in the amendment. In Claim 23, "compris" in line 4 should be "comprises". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 13-15, 25, 169 and 171-173 are rejected under 35 U.S.C. 102(b) as being anticipated by Shrimpton ('177).

Shrimpton discloses a method for controlling the sex of a mammalian offspring that further discloses collecting the sperm from a male; establishing a low number insemination sample for insertion into a female; fertilizing at least one egg; producing an offspring mammal; the success levels range from at least 35%, 41%, 50% and 90%; the low number insemination sample has no more than 10% of the typical number of sperm in a typical insemination sample; determining the sex characteristic of the sperm cells; the sperm cells are separated according to the sex characteristic; collecting sperm cells having a desired sex characteristic; the sperm is collected from bovine equine males; the insemination sample comprises a range of 10-20 million sperm; sperm purity of the desired sex characteristic is at least 70%. See whole document.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrimpton ('177) as applied to claim 1 above, and further in view of Chung et al. Shrimpton, as discussed above, discloses a means of controlling the sex of an offspring through the artificial insemination of the female with a specific sex characteristic containing sperm at the optimal time of estrus for the animal, but fails to disclose the insemination of an animal with intrauterine horns, and inserting the insemination sample

within the intrauterine horns; and the insemination sample is inserted through the use of embryo transfer equipment.

Chung et al discloses the use of an artificial insemination and embryo transfer device that further discloses the insemination of an animal with intrauterine horns, and inserting the insemination sample within the intrauterine horns; and the insemination sample is inserted through the use of embryo transfer equipment. See Column 12, lines 6-22; and Column 15, lines 1-12.

Since both Shrimpton and Chung et al disclose means for artificially inseminating an animal, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Shrimpton to include the use of an artificial insemination and embryo transfer device, as per the teachings of Chung et al, in order to provide a means of depositing the insemination sample deep within the intrauterine horns to increase the percentage of fertilization without causing trauma to the animal during the procedure. It also would have been obvious to inseminate the animal within a window of 10-17 hours of the optimal time in the estrus cycle since it is common knowledge that when an animal is inseminated within this time frame, the egg is more likely to become fertilized.

7. Claims 16-18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrimpton ('177) as applied to claim 15 above, and further in view of Adair. Shrimpton, as discussed above, discloses a means of controlling the sex of an offspring, but fails to disclose the use of a flow cytometer; and staining the sperm cells.

Adair discloses the use of treating collected sperm and separating the sperm, and further discloses the use of a flow cytometer; and staining the sperm cells. See Column 3, lines 25-39; and Column 4, lines 6-54.

Since both Shrimpton and Adair disclose the means of separating sperm into sex specific characteristics, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Shrimpton to include the use of a flow cytometer, as per the teachings of Adair, since it would provide a fast and efficient means of separating the sperm while providing a high rate of accuracy during the operation. It also would have been obvious to cushion the sperm cells since it is well known in the art that since the sperm cell is vulnerable factors such as vibration, light, and heat, the sperm cell would be damaged if they collided with the collector.

8. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shrimpton ('177) as applied to claim 3 above, and further in view of Wiltbank et al ('457).

Shrimpton, as discussed above, discloses a means of controlling the sex of an offspring, but fails to disclose using hormone injections to increase production of egg cells; the hormone injections are performed in increments; and injecting a follicle stimulating hormone.

Wiltbank et al discloses the use of a process for the synchronization of ovulation in cattle and further discloses disclose using hormone injections to increase production of egg cells; the hormone injections are performed in increments; and injecting a follicle stimulating hormone. See whole document.


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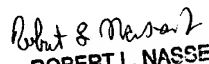
Since both Shrimpton and Wiltbank et al disclose means for breeding cows, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Shrimpton to include the use of hormone treatments, as per the teachings of Wiltbank et al, in order to optimize the rate of fertilization of the female following an insemination procedure.

***Allowable Subject Matter***

9. Claims 4, 26-29, 165-168 and 170 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Szmal whose telephone number is (703) 308-3737, and group fax number is (703) 308-0758. The examiner can normally be reached on Monday-Friday, with second Fridays off.

  
BS  
August 31, 2001

  
ROBERT L. NASSER  
PRIMARY EXAMINER

Attachment for PTO-948 (Rev. 03/01, or earlier)

6/18/01

**The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.**

**INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

**1. Correction of Informalities -- 37 CFR 1.85**

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may **NOT** be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

**2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.**

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

**Timing of Corrections**

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.